WEST NILE VIRUS AND OTHER MOSQUITO-BORNE DISEASE NATIONAL SURVEILLANCE REPORT

OCT 18 TO OCT 24, 2015 – REPORT WEEK 42

CANADA

HUMANS

During surveillance week 42, ending on Oct 24, 2015, eight (8) human clinical cases of West Nile virus were reported to the Public Health Agency of Canada (the Agency). Of these, seven cases were reported in Quebec [Lanaudière (1), Montérégie (5), Laval (1)] and one case in Ontario [Lambton County (1)].

As of surveillance week 42, a total of 69 human clinical cases have been reported to the Agency: Quebec (35), Ontario (29), and Manitoba (5). Of these, thirty-eight (55%) were classified as West Nile virus Neurological Syndrome, twenty-six (38%) as West Nile virus Non-Neurological Syndrome, and five (7%) as Unclassified. In addition, four (4) asymptomatic infections from two provinces have been reported: three in Quebec [Laval (1) and Montérégie (2)] and one in Toronto, Ontario.

MOSQUITOES

As of surveillance week 42, 173 (0.86%) out of the 20,046 mosquito pools have tested positive for West Nile virus in Canada: Quebec (33), Ontario (94), Manitoba (30), and Saskatchewan (16).

DEAD BIRDS

As of surveillance week 42, the Canadian Wildlife Health Cooperative and the Quebec Ministry of Health and Social Services have reported a total of 47 dead birds that were tested positive for West Nile virus: Quebec (18), Ontario (28), and Saskatchewan (1).

Comment [SM1]: This should read as 47 in the PDF.

DOMESTIC ANIMALS

As of surveillance week 42, the Canadian Food Inspection Agency and Le ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec have reported a total of 11 horses that were tested positive for West Nile virus: Quebec (1), Ontario (3), Manitoba (1), Saskatchewan (3) and Alberta (3).

Seven horses from three provinces have tested positive for Eastern Equine Encephalitis virus: Ontario [Richmond (1), Carlsbad Springs (1), Gananoque (1), Brinston (1)], Quebec [Saint-Lambert (1)] and Nova Scotia [New Germany (1), South Brookfield (1)]

UNITED STATES

As of October 27, 2015, the Centers for Disease Control and Prevention (CDC) has reported a total of 1,566 human cases of West Nile virus:

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Canada

Alabama (7), Arizona (80), Arkansas (18), California (421), Colorado (90), Connecticut (9), Delaware (1), District of Columbia (1), Florida (9),Georgia (11), Idaho (13), Illinois (58), Indiana (18), Iowa (9),Kansas (26), Kentucky (0), Louisiana (43), Maine (1), Maryland (45), Massachusetts (9), Michigan (18), Minnesota (6), Mississippi (38), Missouri (26), Montana (3), Nebraska (62), Nevada (7), New Jersey (25), New Mexico (13), New York (26), North Carolina (3), North Dakota (23), Ohio (33), Oklahoma (65), Oregon (1), Pennsylvania (31), South Carolina (0), South Dakota(40), Tennessee (3), Texas (213), Utah (6), Virginia (20), Washington(24), Wisconsin (7) and Wyoming (4).

Of these, 1,004 (64%) were diagnosed as neuroinvasive disease cases, 562 (36%) as non-neuroinvasive disease cases. 80 fatal cases were reported. In addition, 285 presumptive viremic blood donors have been identified.

EUROPEAN UNION, EUROPEAN ECONOMIC AREA AND NEIGHBOURING COUNTRIES

As of October 29, 2015, the European Centre for Disease Prevention and Control has reported 106 cases of West Nile fever in humans in the EU Member States: Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK, as well as 134 cases in the neighboring countries: Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine, Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia , since the beginning of the 2015 transmission season.

FIGURE 1: West Nile Virus human clinical cases and asymptomatic infections, by Province/Territory and by report week, 2015 season

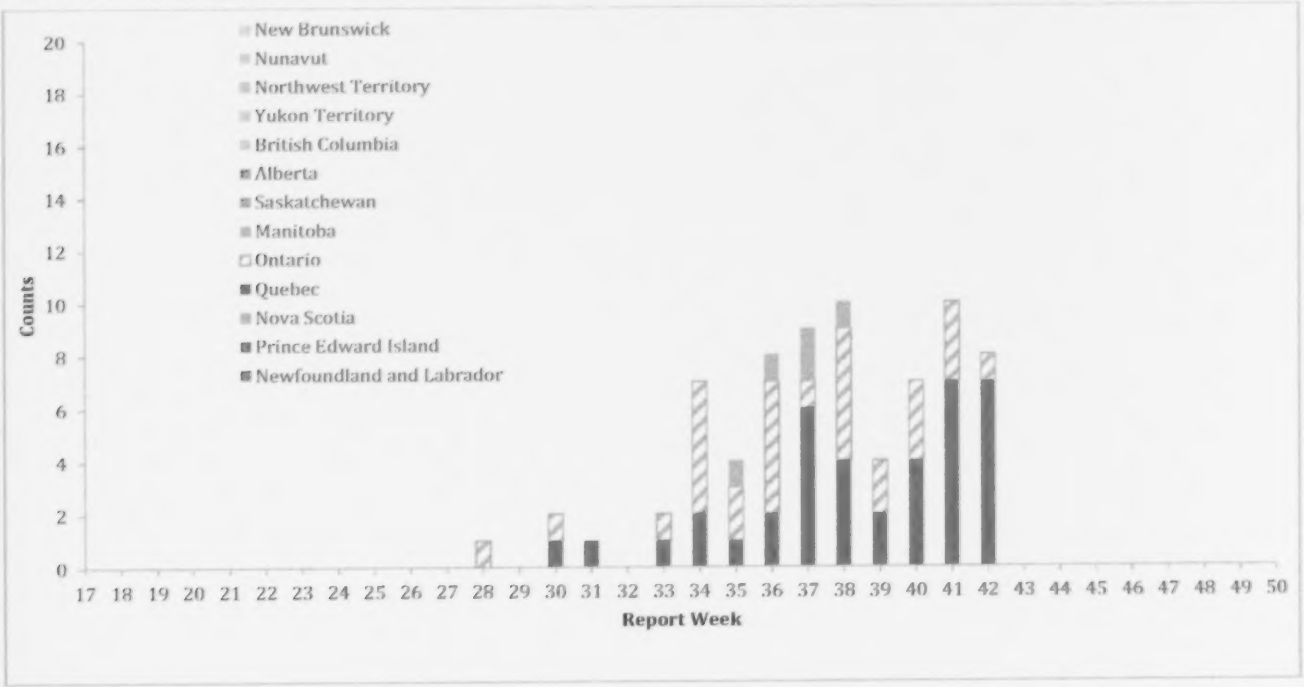


TABLE 1: West Nile Virus human clinical cases and asymptomatic infections, by Province/Territory and by report week, 2015 season

	Report Weeks of 2015																															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Total
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	1	2	6	4	2	4	7	7							38
Ontario	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	5	2	5	1	5	2	3	3	1							30
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0							5
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ǂ	ǂ	ǂ	ǂ	ǂ	ǂ							0
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	2	7	4	8	9	10	4	7	10	8							73

ǂ This province has stopped human surveillance since week 37.

TABLE 2: West Nile Virus human clinical cases and asymptomatic infections by Province/Territory for the current report week and year to date, 2015 season

	Week 42: Oct 18 to Oct 24, 2015					
	West Nile virus neurological syndrome	West Nile virus non-neurological syndrome	Unclassified/unspecified	Total clinical cases[1]	Number of travel-related cases[2]	West Nile virus asymptomatic infection[3]
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Quebec	5	2	0	7	0	0
Ontario	0	0	1	1	0	0
Manitoba	0	0	0	0	0	0
Saskatchewan	0	0	0	0	0	0
Alberta	0	0	0	0	0	0
British Columbia	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	5	2	1	8	0	0

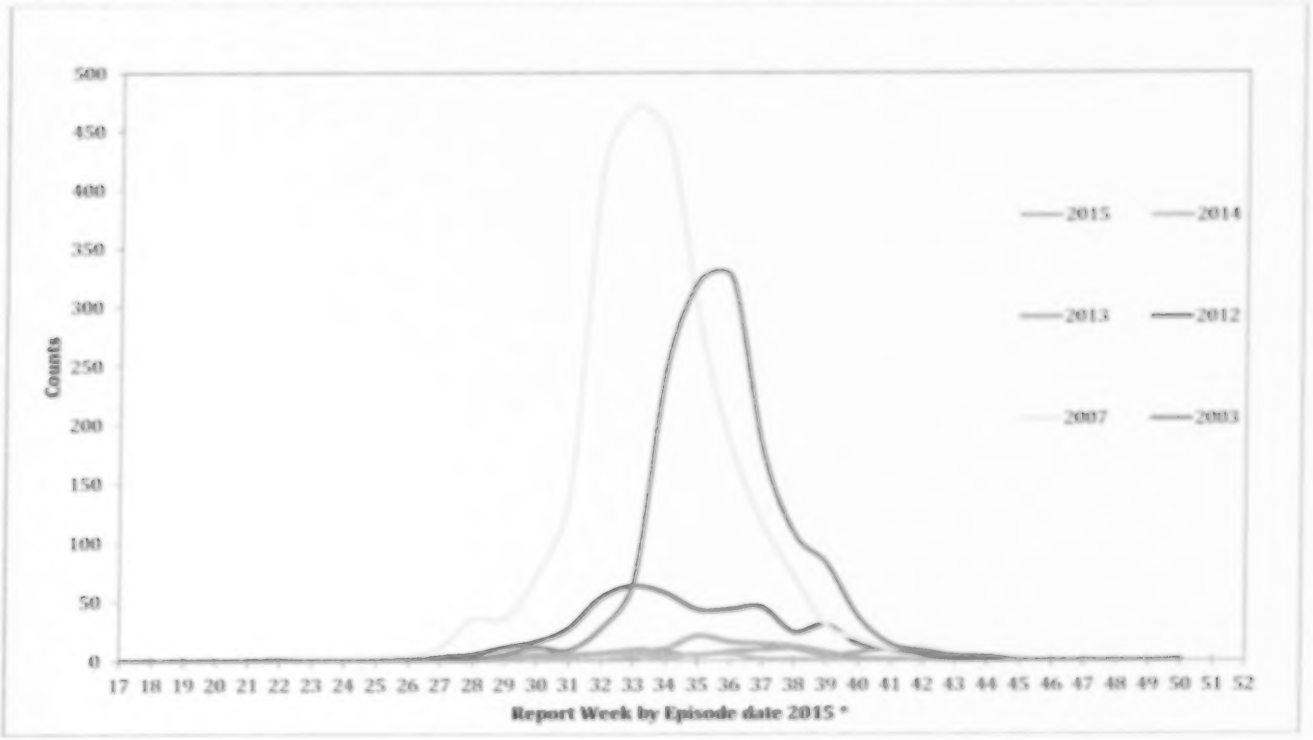
	Year to date: January 1 to Oct 24, 2015					
	West Nile virus neurological syndrome	West Nile virus non-neurological syndrome	Unclassified/unspecified	Total clinical cases[1]	Number of travel-related cases[2]	West Nile virus asymptomatic infection[3]
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Quebec	26	9	0	35	2	3
Ontario	11	13	5	29	4	1
Manitoba	1	4	0	5	0	0
Saskatchewan	0	0	0	0	0	0
Alberta	0	0	0	0	0	0
British Columbia	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	38	26	5	69	6	4

[1] Total clinical cases is the sum of both probable and confirmed West Nile virus neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

[2] Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or West Nile virus asymptomatic infections.

[3] Satisfies West Nile virus diagnostic test criteria in the absence of clinical criteria. This category could include asymptomatic blood donors whose blood is screened using a nucleic acid amplification test, by blood operators (i.e. Canadian Blood Services or Hema-Quebec) and is subsequently brought to the attention of public health officials. Blood operators in Canada perform a supplementary West Nile virus specific nucleic acid amplification test following any positive donor screen test result.

FIGURE 2: *West Nile Virus clinic al cases and asymptomatic infections by report week for selected years*



* West Nile virus clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

TABLE 3: West Nile Virus clinical cases and asymptomatic infections by report week for selected years

	Report week																															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
2015	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	2	7	4	8	9	10	4	7	10	8					
2014	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4*	3	5	6	1	1	0	0	1	0	0	0	0	0	0
2013	1	0	0	0	0	1	1	0	0	0	1	2	1	5	5	8	17	11	13	13	11	9	1	6	1	0	4	1	0	1	0
2012	1	0	0	0	0	0	0	0	0	0	3	5	11	16	27	53	63	57	43	43	45	24	30	14	9	5	1	0	0	0	0
2007	0	0	0	0	0	0	2	2	3	4	11	35	36	72	139	424	471	443	287	182	116	71	30	18	10	11	5	4	2	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	11	28	28	38	45	27	15	7	12	3	3	1	0	0	0
2003	0	0	0	0	0	0	0	0	0	1	1	1	5	11	9	27	66	249	323	324	178	107	82	37	14	8	4	3	0	0	0

* One of these cases was likely exposed prior to the 2014 West Nile virus season

TABLE 4.1: Number of West Nile Virus mosquito pools tested weekly by Province/Territory - 2015 season[1]

Province / Territory	Report week of 2015																										
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Total
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quebec	0	0	0	0	0	0	0	0	0	120	127	132	131	129	126	133	125	123	131	128	123	108	107	‖	‖	‖	1743
Ontario	0	0	0	0	0	180	356	852	886	954	1152	1216	1219	1222	1176	1168	1168	987	881	802	712	526	396	65	ᵠ	ᵠ	15918
Manitoba	0	0	0	0	12	4	87	82	44	75	73	132	139	204	275	195	228	69	92	113	34	¶	¶	¶	¶	¶	1858
Saskatchewan	0	0	0	0	2	0	3	3	10	13	16	40	47	69	67	80	94	42	41	ǂ	ǂ	ǂ	ǂ	ǂ	ǂ	ǂ	527
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	14	184	446	937	940	1162	1368	1520	1536	1624	1644	1576	1615	1221	1145	1043	869	634	503	65	0	0	20046

[1] Detailed West Nile virus mosquito surveillance data can be accessed through Provincial/Territorial websites

ǂ This province has stopped mosquito surveillance since week 36

¶ This province has stopped mosquito surveillance since week 38

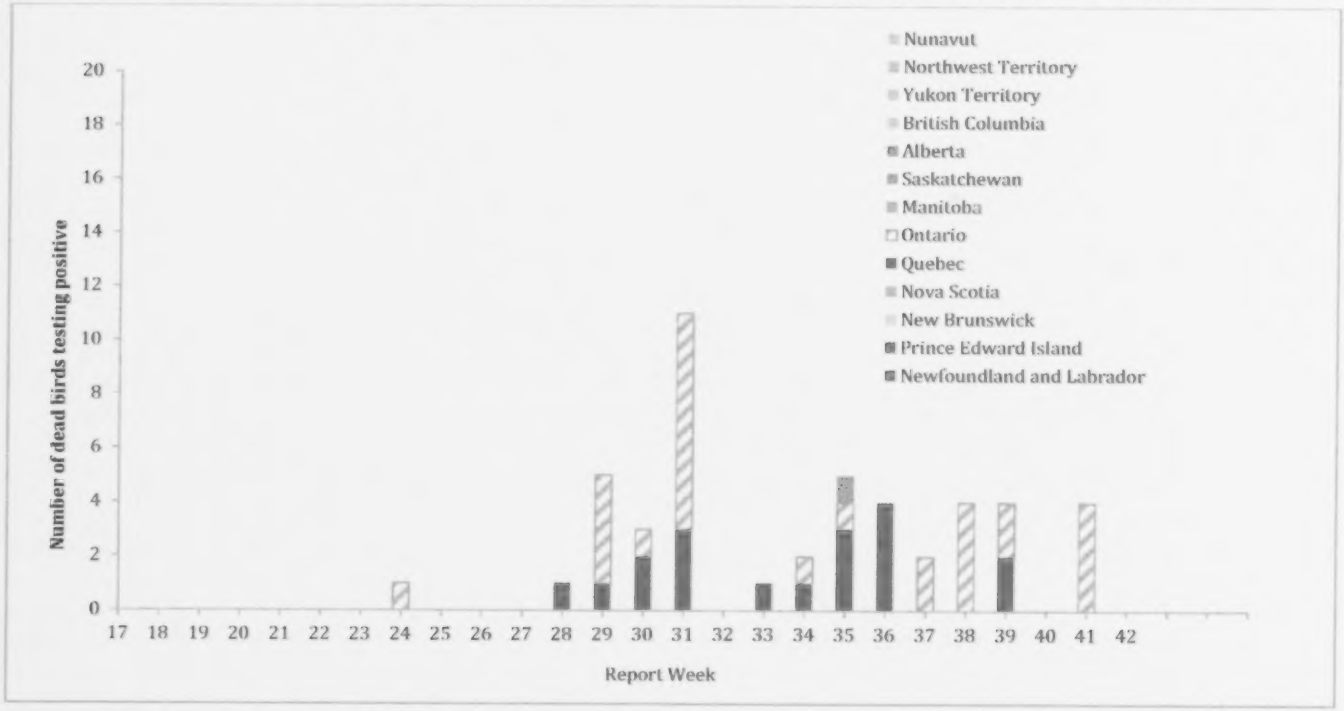
‖ This province has stopped mosquito surveillance since week 40

Ψ This province has stopped mosquito surveillance since week 41

TABLE 4.2: Number of mosquito pools tested and number of positive mosquito pools by Province/Territory, 2015 season

Province	Year to date January 1 to Oct 24, 2015		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Quebec	33	1743	1.89
Ontario	94	15918	0.59
Manitoba	30	1858	1.61
Saskatchewan	16	527	3.04
Total	173	20046	0.86

FIGURE 3: Reported number of dead birds testing positive for West Nile Virus by Province/Territory and by report week, 2015 season*



* Data from the Canadian Wildlife Health Cooperative and the Quebec Ministry of Health and Social Services

TABLE 5: Reported number of dead birds testing positive for West Nile Virus by Province/Territory and by report week, 2015 season*

	Report week of 2015																															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	Total
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Quebec	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	0	1	1	3	4	0	0	2	0	0	0						18
Ontario	0	0	0	0	0	0	0	1	0	0	0	0	4	1	8	0	0	1	1	0	2	4	2	0	4	0						28
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0						1
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0
Total	0	0	0	0	0	0	0	1	0	0	0	1	5	3	11	0	1	2	5	4	2	4	4	0	4	0						47

Comment [SM2]: This column should be all 0 in the Word doc.

* Data from the Canadian Wildlife Health Cooperative and the Quebec Ministry of Health and Social Services

FIGURE 4: Percentage of dead birds testing positive for West Nile Virus in the 2015 season by report week, as compared to the 2003, 2012 and 2014 seasons

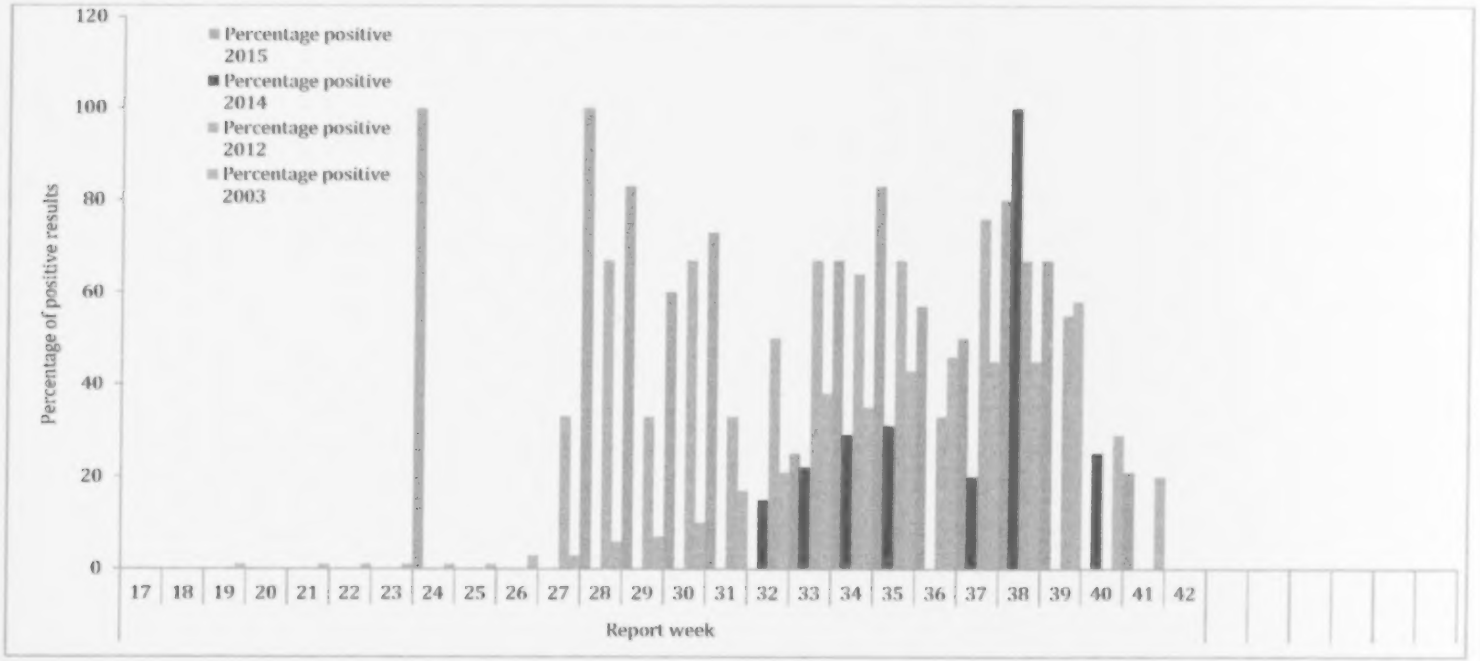


TABLE 6: Percentage of dead birds testing positive for West Nile Virus in the 2015 season by report week, as compared to the 2003, 2012 and 2014 seasons

		Report week																														
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Numbers positive	2015	0	0	0	0	0	0	0	1	0	0	0	1	5	3	11	0	1	2	5	4	2	4	4	0	4	0					
Numbers tested	2015	0	0	0	0	0	0	0	1	0	0	1	1	6	5	15	7	4	3	6	7	4	5	6	2	19	0					
Percentage positive	2015	0	0	0	0	0	0	0	100	0	0	0	100	83	60	73	0	25	67	83	57	50	80	67	0	21	0					
Numbers positive	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	4	0	2	3	0	1	0	0	0	0	0	0	0
Numbers tested	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	41*	10	13	9	7	13	6	10	3	1	4	2	1	0	0	0	0	0
Percentage positive	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	22	29	31	0	20	100	0	25	0	0	0	0	0	0	0
Percentage positive	2012	0	0	0	0	0	0	0	0	0	0	33	67	33	67	33	50	67	64	67	33	67	67	55	0	0	0	0	0	0	0	0
Percentage positive	2003	0	0	1	0	1	1	1	1	1	3	3	6	7	10	17	21	38	35	43	46	45	45	58	29	20	15	8	0	0	0	0

* Data became available during Week 30; this is a cumulative number of dead birds tested from Week 1 to Week 30